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## An Annotated List of Iowa Discomycetes

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## AN ANNOTATED LIST OF IOWA DISCOMYCETES.

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FRED JAY SEAVER.

The Discomycetes include a large and much neglected group of fungi, variable in form and size and of wide distribution. During the last three seasons, a large number of local species have been added to those already reported, and in this paper an attempt has been made to bring together and list the species reported from the state. Those forms described and illustrated in the "Bulletin of Natural History" of the State University of Iowa (Vol. V, No. 4) are repeated here, and those which have not been described and figured will appear in a later edition of the same bulletin.

The list, as it appears here, is only a partial one, a large number of species having been collected which are still unidentified and new ones continually being added. It is hoped to extend this work and make it as complete as possible and any aid from those interested in the way of material will be gratefully received.

A brief note accompanies each species emphasizing some of the prominent characters, special attention being given to habitat and distribution. The name of the collector accompanies each species except where the collection was made by the author.

In preparing this list I am indebted to Profs. T. H. Macbride and B. Shimek for the use of numerous collections in the university herbarium and to Prof. L. H. Pammel, of Ames, for the use of the Holway collection which contained a number of species not collected at Iowa City and several *exsiccati* of much value.

## HELVELLINÆ.

### FAMILY—GEOGLOSSACEÆ.

1. *Spathularia clavata* (Schaeff.) Sacc.

This species is known to but one locality in the north-east part of the state where it is found on the ground in pine woods among decaying needles. Collected by B. Shimek and E. W. D. Holway.

2. *Leotia stipitata* (Bosc.) Schroeter.

Pileus dark æruginous green; stem yellowish. On naked soil in woods. Turkey creek, autumn, 1902. Not uncommon.

3. *Leotia lubrica* (Scop.) Pers.

Pileus golden yellow becoming brownish or greenish; stem same color. In woods on soil among fallen leaves. Common in woods near Iowa City, during the autumn of 1904.

### FAMILY—HELVELLACEÆ.

4. *Morchella esculenta* (Linn.) Pers.

Pileus globose or elongated. A common species in open woods. Various collections by T. H. Macbride and B. Shimek. Iowa City.

5. *Morchella conica* Pers.

Pileus conical; ribs longitudinally inclined. Closely related to the preceding. Not uncommon in open woods. Collected by T. H. Macbride and B. Shimek. Iowa City.

6. *Morchella delicosa* Fries.

Similar in form to the preceding but much smaller; stem stout; pits brownish inside; ribs light colored. Collected by S. C. Knupp in the spring of 1904. Iowa City.

7. *Morchella hybrida* (Sow.) Pers.

Stem large; pileus small and only partially united with the stem. Common in woods at the mouth of Turkey creek during the spring of 1897. Collected by B. Shimek.

8. *Helvella lacunosa* Afz.

Plants yellowish or brownish; pileus adnate with the stem. Various collections by T. H. Macbride and B.

Shimek. Iowa City; Winneshiek county, B. Shimek. Not uncommon in woods.

9. *Helvella crispa* (Scop.) Fries.

Plants snow-white; pileus generally free. Rather common on the ground in woods among fallen leaves during the autumn of 1904. Iowa City.

10. *Helvella elastica* Bull.

Stem slender and even. Not uncommon on soil in woods during the summer and autumn. Various collections. Iowa City;—Winneshiek county, B. Shimek.

11. *Helvella macropus* (Pers.) Karst.

Stem slender and generally even; pileus cup-shaped. Sometimes similar to preceding. Rather common on naked soil in woods. Iowa City.

12. *Gyromitra esculenta* Fries.

Pileus large undulated, brownish; stem short. Plants collected by T. H. Macbride. Iowa City. Rare.

FAMILY—RHIZINACEÆ.

13. *Sphærosoma echinulatum* Seaver.

Journal of Mycology 11, pp. 2-5. On damp clay soil. Common during the summer of 1904 in a ravine one mile north of Iowa City. A rare genus.

PEZIZINEÆ.

FAMILY—PYRONEMACEÆ.

14. *Pyronema omphalodes* (Bull.) Fekl.

Plants crowded, forming reddish or salmon-colored masses from one to two inches in diameter in damp places on charcoal and ashes where wood has been recently burned. Very common in wet weather on burnt places. Iowa City. Summer and autumn, 1904.

15. *Pyronema aurantio-rubrum* (Fekl.) Sacc.

Similar to preceding but distinguished by smaller sporidia. Collected on charcoal. Autumn, 1903. Iowa City.

16. *Pyronema melalomum* (Fries) Fekl.

Cups nearly plane, dingy red, 3 to 5 mm. in diameter. Very common on burnt places. Summer and autumn. Various collections, 1903-4. Iowa City.

FAMILY—PEZIZACEÆ.

17. *Sphaerospora confusa* (Cooke) Sacc.

Plants nearly plane, brown, clothed with hairs; sporidia globose. Very common on a sandy bank in the woods one mile north of Iowa City. This species has been collected during the last three seasons in one locality where it occurs on naked soil or among moss plants. It is limited to a very small area and has not been collected in any other locality near Iowa City. 1902-4.

18. *Lachnea hemispherica* (Wigg.) Gill.

Cups hemispherical, .5 to 1 inch in diameter, white inside, externally clothed with brown hairs. Common on naked soil in woods. Various collections. Iowa City, 1902-4;—Decorah, Iowa, July 15, 1882, E. W. D. Holway.

19. *Lachnea scutellata* (Linn.) Sacc.

Cups nearly plane, scarlet, .2 to .5 inches in diameter. Very common on decaying wood in moist places, often among moss plants. Various collections. Iowa City, 1903-4.

20. *Lachnea setosa* (Nees) Sacc.

Similar to preceding but plants much smaller, lighter colored, and hairs much longer. Rather common on decaying wood. Often very numerous and gregarious. Various collections. Iowa City, 1902-4;—Winneshek county, B. Shimek.

21. *Lachnea hirta* (Schum.) Sacc.

Plants brick-red, similar in size and general appearance to *Lachnea scutellata* (L.) S. but darker colored; spores rough instead of smooth as in the two preceding species. Rather common on the ground in wet places. Iowa City, 1902-4;—Pocahontas county. Summer, 1903.

22. *Lachnea melaloma* (A. & S.) Sacc.

Plants small, brownish-black. Found on burnt wood, and the surrounding soil. Iowa City. Autumn, 1903. Not common.

23. *Lachnea abundans* Karst.

Plants small, 1 to 3 mm. in diameter, dull whitish, very much crowded. Common in one locality during the autumn of 1904. On burnt wood and ashes. Iowa City.

24. *Lachnea albo-spadicea* (Grev.) Sacc.

Plants small whitish, hemispherical, becoming nearly plane. On the ground in shady places. Iowa City. Rare.

25. *Lachnea aurantiopsis* (Ellis) Sacc.

Plants about 1 cm. in diameter, yellowish or orange. On mossy logs. Collected by E. W. D. Holway, Decorah, Iowa, November, 1882.

26. *Peziza aurantia* Pers.

Cups large, 1 inch or more in diameter, bright orange-red. Collected in considerable numbers during the autumn of 1903 in a grassy place at the base of an oak stump. Also in shady woods. Iowa City;—Decorah, Iowa, October, 1882, E. W. D. Holway. Not very common.

27. *Peziza rutilans* Fries.

Plants small, 1 cm. in diameter or less, orange-red, externally whitish. Rather common in woods among moss plants. These plants seem to be found always with the same kind of moss (*Atrichum* ?). Various collections, Iowa City, 1902-4.

28. *Peziza vesiculosa* Bull.

The specimen described in "The Discomycetes of Eastern Iowa" I, p. 39 (reprint) as *Peziza cerea* Sow. is probably *Peziza vesiculosa* Bull. From the description there seems to be little distinction between the two species. The cups are large and often irregular in form and the flesh very brittle. This species has been found to be very common in strawy manure and soil fertilized with such material. Various collections 1902-4. Iowa City;—Decorah, Iowa, June, 1883, E. W. D. Holway.

29. *Peziza repanda* Wahl.

Collected by E. W. D. Holway at Decorah, Iowa, October, 1882. On old logs.

30. *Peziza badia* Pers.

Plants brown, about one inch in diameter. On naked soil in shady places, moist banks, etc. Iowa City. Summer and autumn, 1902-4. Not uncommon.

31. *Peziza brunneo-atra* Desm.

Plants very dark brown. Distinguished from the preceding by the plane disc-shaped receptacle. On the ground in shady places. Summer. Iowa City, 1904. Rare.

32. *Detonia trachycarpa* (Curr.) Sacc.

Plants large, nearly plane, dark brown. Distinguished from the genus *Peziza* by the globose spores. Plants were abundant during the autumn of 1904 on burnt places. This species and *Lachnea abundans* K. were found in the same locality, a piece of woods in which a large number of trees (*Populus tremuloides*) had been cut and the brush burned at various places a short distance apart. Both of these species were found in abundance on such places.

33. *Humaria Muralis* Quel.

Plants very small, 2 to 3 mm. in diameter, orange-red. Not uncommon in shady places, often on mossy banks by the roadsides. Autumn, 1904. Iowa City.

34. *Humaria tetraspora* (Fckl.) Sacc.

In external appearance resembling the preceding, but distinguished by the 4-spored asci. In damp mossy places. Autumn, 1903-4. Iowa City.

35. *Humaria humosa* (Fr.) Sacc.

Plants small, 2 to 5 mm. in diameter, orange-red. Common in moist places on naked soil and among moss. Autumn, 1903-4. Iowa City.

36. *Humaria leucoloma* (Hedw.) Fries.

Plants orange-red, very small, 1 to 2 mm. in diameter. Among moss in woods. Autumn, 1904. Rather common.

37. *Humaria granulata* (Bull.) Sacc.

Collected at Decorah, Iowa, on cow dung, 1885, E. W. D. Holway.

38. *Barlæa cec'hqueraultii* (Crouan) Sacc.

Plants very small, orange-yellow. Sporidia globose, echinulate. Numerous on clay soil in ravine. Summer, 1904. Iowa City.

39. *Barlæa cinnabarina* (Fekl.) Sacc.

Plants small, orange-red, at maturity, convex. Sporidia delicately reticulated. Rather common in shady places among moss. Summer, 1904. Iowa City.

40. *Barlæa amethystina* (Quel.) Sacc.

Plants very small, purplish, with a delicate light colored margin; sporidia verrucose. In woods among moss. Summer, 1904. Iowa City. Not uncommon.

41. *Geopyxis nebulosa* (Cooke.) Sacc.

Cups about 1 cm. in diameter, brown, stipitate. On rotten wood. Autumn, 1903. Iowa City;—Decorah, Iowa, August 13, 1882, E. W. D. Holway. Not very common.

42. *Macropodia pubida* (B. & C.) Sacc.

*Peziza pubida* Berkeley and Curtis, Grev. III, p. 153-4.

*Macropodia pubida* (B. & C.) Saccardo, Sylloge Fung. VIII, p. 159.

*Peziza Morgani* (Masse), Morgan, Jour. of Myc. 8, No. 64, p. 190.

Exsiccati—Ellis N. A. Fungi, No. 1269; Rabenhorst-Winter, Fungi Europæi, No. 3275; *Peziza morgani*, Morgan's collection; *Peziza pubida*, Holway collection.

In "The Discomycetes of Eastern Iowa" I, p. 43 (reprint), it was suggested that *Peziza morgani* Massei might be identical with *Macropodia pubida* (B. & C.) Sacc. I have since been permitted by the kindness of Mr. Morgan to examine a portion of the type specimen of *Peziza morgani* and I find that this specimen is identical with *Peziza pubida* B. & C. of Ellis N. A. Fung., No. 1269 and also with the material described in this paper and in "The Discomycetes of Eastern Iowa" as *Macropodia pubida* (B. & C.) Sacc.

The specimen in "Rabenhorst-Winter Fungi Europea" No. 3275 is different. The plants are dark brown, only slightly granular on the outside (not velvety as described by Berkeley and Curtis for this species) and contain spores which are elliptical, rough, and only 15 by 8 microns, while in Berkeley's specimen the spores are described as fusiform and from 25 to 37 microns long.



*Peziza morgani* Massee then is identical with No. 1269 of Ellis N. A. Fungi and both conform to the original description of *Peziza pubida* Berkeley and Curtis as given in Grevillea, III, pp. 153-4. From the descriptions and material examined there seems to be no doubt that *Peziza morgani* Massee is *Peziza pubida* Berkeley and Curtis.

*Peziza (Sarcoscyphæ) pubida* B. & C.—Grevillea, III, pp. 153-4.—Cupulis congestis hemisphericis, margine inflexo extus stipiteque brevi velutinis; paraphysibus brunneis; sporidiis fusiformibus granulatis.

On the ground. Alabama, Peters. No. 6075. Cups three-fourths inch across, crowded, hemispherical, with an inflexed margin, velvety externally as well as the short stem; paraphyses brown; sporidia spindle-shaped, granulated, .001-.0015 long. Mycelium densely betulose. Closely related to the last (*P. semitosta*).

This species is not uncommon on naked soil in woods. The plants are easily distinguished from the characters given by Berkeley in his description quoted above. The cups are hemispherical and with a short stem-like base, the stem and outside of the cup being clothed with short, brown hairs, giving it a velvety appearance. The hymenium is dark colored, when dry almost black. One of the most prominent characters of the species is the large, fusiform spores which at maturity are delicately warted. In woods near Turkey creek, July 30, 1903;—Decorah, Iowa, August 25, 1882, E. W. D. Holway.

43. *Acetabula vulgaris* (Fr.) Fekl.

Cups 1 inch or more in diameter, stipitate; stem and outside of cup costate. Collected by T. H. Macbride in woods near Iowa City, May, 1890;—Decorah, Iowa, July, 1885, E. W. D. Holway. Rare.

44. *Acetabula sulcata* (Pers.) Fekl.

Cups large, yellowish or brownish, with a short, thick, costate stem. On naked soil in woods. Unionville, Iowa. Spring, 1904. Rare.

45. *Galactinia succosa* (Berk.) Sacc.

Cups rather large, .5 to 1 inch in diameter, or more; hymenium brownish; externally yellowish; juice thick, golden yellow. Rather common on naked soil in woods. Various collections, 1902-4. Iowa City.

46. *Otidea leporina* (Batsch.) Fekl.

Cups large, brownish, split on one side nearly to the base. In woods, Winneshiek county, B. Shimek.

47. *Otidea ochracea* (Fr.) Sacc.

Cups much smaller than preceding, yellowish. In woods, Winneshiek county, B. Shimek.

FAMILY—ASCOBOLACEÆ.

48. *Lasiobolus equinus* (Mull.) Karst.

Plants very small, orange-red, clothed externally with nonseptate hairs. On cow dung, spring, summer and autumn. Various collections, 1903-5, Iowa City;—Decorah, Iowa, May, 1886, E. W. D. Holway. Very common.

49. *Lasiobolus raripilus* (Phill.) Sacc.

Plants very much crowded, forming a yellowish mass. On cow dung in a ravine. Autumn, 1903, Iowa City. Rare.

50. *Ascophanus microsporus* (B. & Br.) P.

Very minute, yellowish when fresh, black when dry. On cow dung. Spring and summer. Iowa City;—Decorah, Iowa, May, 1886, E. W. D. Holway. Very common.

51. *Ascophanus cinereus* (Crouan) Boud.

Grown on horse dung in culture. Iowa City. Rare.

52. *Ascophanus testaceus* (Moug.) Phill.

Plants small, orange-red. On old cloth, paper, etc. On old rag carpet. Pocahontas, Iowa. Summer, 1903. Rare.

53. *Ascophanus granuliformis* (Cr.) Boud.

On cow dung. Decorah, Iowa, May 25, 1886, E. W. D. Holway.

54. *Ascophanus carneus* (Pers.) Sacc.

On cow dung. Decorah, Iowa, April 25, 1886, E. W. D. Holway.

55. *Ryparobius pelletieri* (Cr.) Sacc.

Plants very small, white, nearly cylindrical; asci 32-spored. On cow dung in moist places. Various collections, Iowa City, 1902-4. Not uncommon.

56. *Ryparobius sexdecimsporus* (Cr.) Sacc.

Plants very small, whitish; asci 16-spored. On cow dung. Various collections, 1903-4. Iowa City. Not uncommon.

57. *Ryparobius crustaceus* (Fekl.) Rehm.

Plants similar in external appearance to preceding but asci 64-spored. On cow dung. Iowa City. Not uncommon.

58. *Ryparobius pachyascus* Rehm.

Very minute; asci large, many-spored. On cow dung. Not common.

59. *Saccobolus kerverni* (Crouan) Boud.

Plants small, golden yellow when fresh, black when dry. On cow dung. Various collections, Iowa City, 1903-4;—Decorah, Iowa, May, 1886, E. W. D. Holway. Common in moist places.

60. *Ascobolus furfuraceus* Pers.

Plants light yellowish, as large as 5 mm. in diameter. On cow dung. Iowa City, 1903-5;—Decorah, Iowa, April 25, 1886, E. W. D. Holway. Spring, summer and autumn. Very common.

61. *Ascobolus immersus* Pers.

Plants very small; asci and sporidia very large. On cow dung, spring and summer. Various collections, Iowa City 1903-4; March, 1905. Not uncommon.

62. *Ascobolus glaber* Pers.

Plants very small; sporidia much smaller than in preceding. Grown in culture. Iowa City. Rare.

63. *Ascobolus atro-fuscus* Phil. & Plow.

Plants as large as 6 mm. in diameter, brownish when fresh, when dry hymenium almost black. One collection was made in October, 1903. During the summer of 1904 this species was found to be very common on burnt places. It is easily distinguished by its habitat, its brownish color, and the purple, verrucose sporidia.

64. *Ascobolus viridis* Curr.

Plants rather small, about 3 mm. in diameter, yellowish brown or greenish. The sporidia are covered with net-like reticulations. On mud flats near the Iowa river. Summer

and autumn, 1904. Iowa City. This species has been found to be very common on rather hard, damp, clay soil.

65. *Ascobolus brunneus* Cooke.

Collected on horse dung. Autumn, 1904. Iowa City. Not common.

FAMILY—HELOTIACEÆ.

66. *Sarcoscypha coccinea* (Jacq.) Cke.

Cups large, generally stipitate; hymenium scarlet. Various collections, 1902-05. Iowa City;—Decorah, Iowa, March, 1879, E. W. D. Holway;—Fort Dodge, Iowa, 1904, B. Shimek. Very common on half buried sticks in the woods. Late autumn and early spring.

67. *Sarcoscypha occidentalis* (Schw.) Cke.

Cups much smaller than preceding; stem often very long; hymenium scarlet. On decaying sticks in woods. Spring and summer. Various collections, 1903-04. Iowa City;—Decorah, Iowa, August, 1882, E. W. D. Holway. Rather common.

68. *Sarcoscypha floccosa* (Schw.) Cke.

Cups scarlet inside, clothed with long, white, septate hairs externally. On decaying sticks, spring and summer. Various collections, 1903-04. Iowa City;—Decorah, Iowa, August, 1882, E. W. D. Holway. Rather common in woods.

69. *Chlorosplenium æruginosum* (Nyl.) Karst.

Plants small, stipitate, dark, æruginous green. On wood (oak). Distinguished by the green color of the plants and the wood from which they grow. Various collections. Iowa city. T. H. Macbride and B. Shimek;—Decorah, Iowa, August, 1882, E. W. D. Holway.

70. *Chlorosplenium versiforme* (Pers.) Karst.

Plants irregular in form, greenish. On wood. Decorah, Iowa, August, 1882, E. W. D. Holway.

71. *Dasyscypha nivea* (Hedw.) Sacc.

Plants minute, stipitate, clothed externally with a dense covering of white hairs. On decaying wood (oak). Iowa City, 1904. Common.

72. *Dasyscypha pygmaea* (Fr.) Sacc.

Plants small, yellowish, with a long stem; stem often branched. On half buried sticks and roots in damp place. Summer, 1904. Not common.

73. *Trichopeziza tiliæ* (Peck) Sacc.

Plants small, white, clothed externally with a dense covering of white hairs. Abundant on decaying branches of *Tilia americana*. Unionville, Iowa, May, 1904.

74. *Trichopeziza comata* (Schw.) Sacc.

Plants very small, white, similar to preceding in general appearance but smaller. On decaying oak leaves in wet places. Summer, 1904. Iowa City. Not uncommon.

75. *Phialea fructigena* (Bull.) Gill.

Plants small, yellowish, stipitate or nearly sessile. On acorns and hickory nut husks in wet places in woods. Summer and autumn, 1904. Iowa City. Not uncommon, sometimes abundant.

76. *Ciboria pseudotuberosa* Rehm.

Plants stipitate about 1 cm. in diameter. On acorns. Summer, 1904. Iowa City;—Decorah, Iowa, September, 1882, E. W. D. Holway. Not common.

77. *Helotium citrinum* (Hedw.) Fr.

Plants rather large, .5 to 1 cm. in diameter, stipitate or nearly sessile, lemon-yellow. On rotten wood. Various collections. Iowa City, 1902-5. Very common.

78. *Helotium aciculare* (Bull.) Pers.

Plants small, yellowish, shortly stipitate. On decaying leaves of *Populus tremuloides*. Autumn, 1904. Iowa City. Not very common.

79. *Helotium pallescens* (Pers.) Fr.

Plants very small, light yellow. On much decayed wood. Summer, 1904. Iowa City. Not common.

80. *Coryne sarcoides* (Jacq.) Tul.

Plants rather large, irregular in form, purple or reddish, often cæspitose. On rotten wood in moist places. Various collections, 1902-4. Iowa City. Rather common.

FAMILY—MOLLISACEÆ.

81. *Mollisia dehnii* (Rabenh.) Karst.

Plants small, parasitic on leaves and stems of *Potentilla norvegica*. Pocahontas, Iowa, summer, 1903;—Iowa City, summer, 1904. Not uncommon.

82. *Mollisia polygoni* (Lasch.) Gill.

Plants very small. On decaying stems of *Polygonum*. Spring and summer. Iowa City. Common.

83. *Mollisia cinerea* (Batsch.) Karst.

Plants rather small, grayish, sessile, margin often irregularly folded. This species seems to be very common and widely distributed. It occurs on various kinds of decaying wood. Various collections, 1904-5. Iowa City;—Decorah, Iowa, June 26, 1882, E. W. D. Holway.

84. *Niptera saliceti* (Rehm.) Sacc.

Plants minute, light colored. This genus is distinguished from the preceding by the septate sporidia. This species was collected on wood which was so much decayed that it was impossible to determine the kind of wood. Summer, 1904. Iowa City. Not common.

85. *Orbilbia chrysocoma* (Bull.) Sacc.

Plants very small, sessile, yellowish. On rotten wood. Iowa City;—Decorah, Iowa, August, 1882, E. W. D. Holway. This species is very common in woods.

86. *Orbilbia vinosa* (A. & S.) Karst.

Plants small, similar to preceding but red instead of yellow. On rotten wood. Iowa City, 1904. Common.

FAMILY—PATELLARIACEÆ.

87. *Karschia lignyota* (Fr.) Sacc.

Plants small, black; hymenium nearly plane; sporidia 1-septate, brownish. On decorticated wood. Autumn, 1902 Iowa City. Not common.

88. *Patellaria melaxantha* Fries.

Plants very small, yellowish, gregarious, often confluent; sporidia several septate. On wood. Iowa City. Rare.

89. *Patellaria clavispora* (Peck) Sacc.

Plants very small, black, when dry hysteroform, elongated, when wet becoming more or less expanded, older specimens often circular in outline; sporidia clavate, 3 to 4-septate, brownish. This species has been found to be very common on decorticated willow and often on the bark. The plants, especially when young, resemble those of the genus *Hysterium* but when mature resemble more closely those of the genus *Patellaria*. Various collections, 1902-5. Iowa City. Very common on willow.

90. *Lecanidion atratum* (Hedw.) Rabenh.

Plants small, black; hymenium nearly plane; sporidia hyaline, 7 to 10-septate; paraphyses bluish. On decorticated wood. Autumn, 1904. Iowa City. Rather common.

91. *Lecanidion tetraspora* M. & M.

*Patellaria tetraspora*, Journal of Mycology 8, p. 180. Very closely related to the preceding but asci 4-spored and more cylindrical. Plants very small, black in mass, gregarious. On decorticated wood (ash?). Autumn, 1904. Iowa City. Rather common.

92. *Blytridium fenestratum* (C. & P.) Sacc.

Plants small, black, circular in outline; hymenium almost plane; sporidia muriform. On poplar branches. Decorah, Iowa, August, 1882, E. W. D. Holway.

FAMILY—CENANGIACEÆ.

93. *Cenangium populueum* (Pers.) Rehm.

Plants breaking through the epidermis, caespitose, brownish, 5 mm. to 2 cm. in diameter. On dead branches of *Populus tremuloides* and *P. grandidentata*. Howard county. B. Shimek;—Iowa City, April 13, 1905. Very abundant and common.

94. *Cenangium rubiginosum* (Fr.) Sacc.

On dead limbs of *Carpinus americana*. Decorah, Iowa, E. W. D. Holway.

95. *Dermatea cerasi* (Pers.) Fr.

Plants small, light colored externally; hymenium dark. On rotten wood. Iowa City. Rare.

96. *Bulgaria inquinans* (Pers.) Fr.

Plants caespitose, substipitate, black or brownish-black. Various collections, 1902-4. Iowa City. Very common on bark of oak.

97. *Bulgaria rufa* Schw.

Cups large, caespitose, externally dark brownish; hymenium light colored, slightly reddish. On dead limbs. Iowa City. Rather common.

98. *Holwaya ophiobolus* (Ellis) Sacc.

Similar in external appearance to *Bulgaria inquinans* but smaller; sporidia very long and slender and multi-septate. On wood. Decorah, Iowa, E. W. D. Holway.

99. *Urnula craterium* (Schw.) Fr.

Plants very large, long stipitate, urn-shaped, blackish. On half buried branches. Various collections, 1902-5. Iowa City. Very common and abundant.

## HYSTERINEÆ.

This order includes a large number of plants which are intermediate between the *Discomycetes* and the *Pyrenomycetes*. By some authors they are included with the former and by others with the latter group. The plants of this group are elliptical or elongated in form, generally black in color and rather hard. They open at maturity with a long slit-like aperture, the lips sometimes spreading apart and sometimes remaining tightly closed. A few of the forms collected are included here.

## FAMILY—HYSTERIACEÆ.

100. *Glonium stellatum* Muhl.

Perithecia stellately arranged, very abundant; sporidia long, hyaline, 1-septate. On rotten wood. Collected by T. H. Macbride. Iowa City.

101. *Hysterium pulicare* Pers.

Perithecia gregarious, small; sporidia 3-septate brownish. On bark of different trees. Collected by T. H. Macbride. Iowa City. Rather common.



102. *Hysterographium mori* (Schw.) Ellis.

Perithecia gregarious or crowded; sporidia 3 to 5-septate and muriform, constricted in the middle. On decorticated wood (oak and sumach). Iowa City. Very common.

103. *Hysterographium fraxini* (Pers.) Ellis.

Perithecia scattered or gregarious; sporidia large, muriform, and 7 to 9-septate. On dead limbs of ash. Decorah, Iowa, E. W. D. Holway.

104. *Hysterographium cinerascens* Schw.

Perithecia gregarious or crowded; sporidia 6 to 8-septate muriform and constricted in the middle. On decorticated wood (butternut). Iowa City, 1904.

This species seems to conform to the description of *H. cinerascens* and is included under this name here. The plants are quite abundant on old butternut wood.